

WHAT IS CLAIMED IS:

1. A vial autosampler comprising:  
a sampling module including a sampling needle and being adapted to bring the sampling needle and a vial together such that the sampling needle pierces a septum on the vial;  
a sealing boot disposed about the sampling needle; and  
wherein the sealing boot engages the vial septum when the vial is fully engaged with the sample needle.
2. The autosampler of claim 1, and further comprising an ejector tab coupled to the sealing boot, the ejector tab providing urging the vial from the sampling needle upon completion of sample acquisition.
3. The autosampler of claim 2, wherein the sealing boot is constructed from a chemically inert material.
4. The autosampler of claim 3, wherein the chemically inert material is silicone rubber.
5. The autosampler of claim 4, wherein the silicone rubber has a hardness selected to be between a range of about 30 to about 90 durometer D.

6. The autosampler of claim 5, wherein the silicone rubber has a hardness of about 40 durometer D.

7. The autosampler of claim 2, wherein the sealing boot further comprises an upper plate disposed on a first side of the ejector tab, and a lower plate disposed on a second side of the ejector tab, and wherein the sealing boot further comprises a first gasket sealing between the upper plate and the ejector tab, and a second gasket sealing between the lower plate and the ejector tab.

8. The autosampler of claim 7, wherein the second gasket engages the septum and the first gasket engages a needle block.

9. The autosampler of claim 1, wherein the sealing boot is adapted to limit analyte leakage between the sampling needle and the septum.

10. The autosampler of claim 1, wherein the sealing boot is disposed proximate a tip of the sampling needle when a vial is not engaged with the sampling needle.

11. The autosampler of claim 1, and further comprising a needle block, and wherein the sealing boot contacts the needle block when the sampling needle and

vial are brought together such that a septum of the vial is pierced by the sampling needle, and wherein the sealing boot reduces analyte leakage.

12. A vial autosampler comprising:
  - means for storing vials;
  - means for selecting and transporting a selected one of the vials;
  - means for obtaining a sample from the selected vial;
  - means for sealing to reduce analyte loss during sample acquisition from the selected vial.
13. A method of obtaining a sample from a vial in an autosampler, the method comprising:
  - bringing a sampling needle and vial together such that a septum of the vial is pierced by the sampling needle; and
  - engaging a sealing boot with the vial septum to reduce analyte leakage.
14. The method of claim 13, wherein the step of engaging the sealing boot further comprises engaging the sealing boot with a needle block to form a sealed volume between the sealing boot, the vial septum, and the needle block.